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MATERIAL SAFETY DATA SHEET
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Pro150 Rocket Motor Reload Kit

1.0 PRODUCT / COMPANY IDENTIFICATION

Product Name: Pro150 Rocket Motor Reload Kit
Synonyms: Rocket Motor
Proper Shipping Name: Rocket Motors
Part Number: P150-IS-O5500-rev1
Product Use: Solid fuel motor for propelling rockets

Manufacturer: Cesaroni Technology Inc.
 P.O. Box 246
 2561 Stouffville Rd.
 Gormley, Ont.
 Canada L0H 1G0

Telephone Numbers:
Product Information: 1-905-887-2370
24 Hour Emergency Telephone Number: 1-613-996-6666 (CANUTEC)

2.0 COMPOSITION / INFORMATION ON INGREDIENTS

Ammonium Perchlorate Composite propellant

Ingredient Name	CAS Number	Percentage
Ammonium Perchlorate.....	7790-98-9	65-80%
Aluminum.....	7429-90-5	0-15%
Aluminum Oxide.....	1344-28-1	0-2%
Synthetic Rubber.....		3-35%

Note: Product composition ranges shown are typical values for health, safety and environmental use and are not intended as specifications.

3.0 HAZARDS IDENTIFICATION

Emergency Overview:

This product contains cylinders of ammonium perchlorate composite propellant, encased in an inert composite casing. AWSRM motors are classified as explosives, and may cause serious injury, including death if used improperly. All explosives are dangerous and must be handled carefully and used following approved safety procedures under the direction of competent, experienced personnel in accordance with all applicable federal, state and local laws and regulations.

General Appearance:

Composite case containing rubber-like cylinders. All parts are odourless solids.

Potential Health Effects:
Eye:

Not a likely route of exposure. May cause eye irritation.

Skin:

Not a likely route of exposure. Low hazard for usual industrial/hobby handling.

Ingestion:

Not a likely route of exposure.

Inhalation:

Not a likely route of exposure. May cause respiratory tract irritation.

4.0 FIRST AID MEASURES

Eyes:

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin:

Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

Ingestion:

Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation:

Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Burns: Burns can be treated as per normal first aid procedures.

5.0 FIRE FIGHTING MEASURES

Extinguishing Media:

In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam to contain surrounding fire.

Exposure Hazards During Fire:

Exposure to extreme heat may cause ignition.

Combustion Products from Fire:

During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Fire Fighting Procedures:

Keep all persons and hazardous materials away. Allow material to burn itself out. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

Special Instructions / Notes:

This article burns rapidly and generates a significant flame for a short period of time.

6.0 ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel):

Spills: Clean up spills immediately. Replace articles in packaging and boxes and seal securely. Sweep or scoop up using non-sparking tools.

7.0 HANDLING AND STORAGE

Handling:

Keep away from heat, sparks and flame. Avoid contamination. Do not get in eyes, on skin or on clothing. Do not taste or swallow. Avoid prolonged or repeated contact with skin.

Storage:

Store in a cool, dry place away from sources of heat, spark or flame. Keep in shipping packaging when not in use.

8.0 EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:

Use adequate explosion proof ventilation to keep airborne concentrations low. All equipment and working surfaces must be grounded.

Personal Protective Equipment:**Eyes:**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:

Wear appropriate gloves to prevent skin exposure if handling pellets.

Clothing:

Wear appropriate protective clothing to prevent skin exposure if handling pellets. Clothing should be appropriate for handling pyrotechnic substances.

Respirators:

A respirator is not typically necessary. Follow the OSHA respirator regulations found in 29CFR1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

9.0 PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	solid
Appearance:	cylinders of rubber inside composite case
Odour:	none
Odour Threshold:	Not available.
pH:	Not available.
Vapour Pressure:	Not available.
Vapour Density:	Not available.
Viscosity:	Not available.
Evaporation Rate:	Not available.
Boiling Point:	Not available.
Freezing/Melting Point:	Not available.
Coefficient of water/oil distribution:	Not available.
Autoignition Temperature:	Not available.
Flash Point:	Not available.
Explosion Limits, lower (LEL):	Not available.
Explosion Limits, upper (UEL):	Not available.
Sensitivity to Mechanical Impact:	unlikely, but possibly can be ignited by impact
Sensitivity to Static Discharge:	unlikely, but possibly can be ignited by static discharge
Decomposition Temperature:	> 400°C
Solubility in water:	propellant soluble in water
Specific Gravity/Density:	Not available.
Molecular Formula:	Not applicable
Molecular Weight:	Not applicable.

10.0 STABILITY AND REACTIVITY

Chemical Stability:

Stable under normal temperatures and pressures.

Conditions to Avoid:

Heat, static electricity, friction, impact

Incompatibilities with Other Materials:

Combustible or flammable materials, explosive materials

Hazardous Products Of Decomposition:

Oxides of nitrogen

Hazardous Polymerization:

Will not occur.

11.0 TOXICOLOGICAL INFORMATION

Routes of Entry:

Skin contact – not likely
 Skin absorption – not likely
 Eye contact – not likely
 Inhalation – possible, but not likely
 Ingestion – not likely

Effects of Acute Exposure to Product:

No data available

Effects of Chronic Exposure to Product:

No data available

Exposure Limits:

Ingredient Name	CAS Number	OSHA PEL	ACGIH TLV
Ammonium Perchlorate	7790-98-9	not established	not established
Aluminum	7429-90-5	not established	not established
Aluminum Oxide	1344-28-1	not established	not established
Synthetic Rubber		not established	not established

Irritancy of the Product:	No data available
Sensitization to the Product:	No data available
Carcinogenicity:	Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA
Reproductive Toxicity:	No data available
Teratogenicity:	No data available
Mutagenicity:	No data available
Toxically Synergistic Products:	No data available
LD50:	No data available

12.0 ECOLOGICAL INFORMATION

Environmental Data:	
Ecotoxicity Data:	Not determined.
EcoFaTE Data:	Not determined.

13.0 DISPOSAL CONSIDERATIONS

Product As Sold:	Pack firmly in hole in ground with nozzle pointing up. Ignite motor electrically from a safe distance and wait 5 minutes before approaching. Dispose of spent components in inert trash.
Product Packaging:	Dispose of used packaging materials in inert trash.
Special Considerations:	Consult local regulations about disposal of explosive materials.

14.0 TRANSPORT INFORMATION

Shipping Information – Canada

TDG Classification:	Class 1.3 Explosive
Proper Shipping Name:	Rocket Motors
UN Number:	0186
UN Classification Code:	1.3 C
Packing Group:	I
UN Packing Instruction:	130

Shipping Information - USA / IMO

Proper Shipping Name:	Rocket Motors
UN Number:	0186
UN Classification Code:	1.3 C
US DOT Classification Reference Number:	EX2002060297
DOT / IMO Label:	Class 1 – Explosive – Division 1.3C

Shipping Information - IATA

Proper Shipping Name:	Rocket Motors
UN Number:	0186
UN Classification Code:	1.3 C
IATA Label:	Class 1 – Explosive – Division 1.3C Cargo Aircraft Only

15.0 REGULATORY INFORMATION

Canada

This product has been classified according to the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

WHMIS Classification: Not Controlled (explosive)

Domestic Substance List (DSL) Status:

CAS# 7429-90-5 (Al) is listed on Canada's DSL List.
CAS# 7790-98-9 (ClH₄NO₄) is listed on Canada's DSL List.
CAS# 1344-28-1 (Al₂O₃) is listed on Canada's DSL List.

Ingredient Disclosure List Status:

CAS# 7429-90-5 (Al) is not listed on Canada's Ingredient Disclosure List.
CAS# 7790-98-9 (ClH₄NO₄) is not listed on Canada's Ingredient Disclosure List.
CAS# 1344-28-1 (Al₂O₃) is not listed on Canada's Ingredient Disclosure List.

Canadian Explosives Classification: Class 7.2.5

This product is an authorized explosive in Canada. (File # XP 2050-C50 02060401)

This product is considered "Controlled Good" in Canada under the Controlled Goods Regulations.

United States of America

TSCA Inventory Status:

CAS# 7790-98-9 (ClH₄NO₄) is listed on the TSCA inventory.
CAS# 7429-90-5 (Al) is listed on the TSCA inventory
CAS# 1344-28-1 (Al₂O₃) is listed on the TSCA inventory

Hazardous Chemical Lists

CERCLA Hazardous Substance (40 CFR 302.4)	No
SARA Extremely Hazardous Substance (40CFR 355)	No
SARA Toxic Chemical (40CFR 372.65)	No

16.0 OTHER INFORMATION

US DoD Hazard Characteristic Code (HCC): E1 (Explosives, Military)

MSDS Prepared by: Regulatory Affairs Department
Cesaroni Technology Inc.
P.O. Box 246
2561 Stouffville Rd.
Gormley, ON
Canada L0H 1G0

Telephone: 905-887-2370 x239

Fax: 905-887-2375

Web Site: www.cesaronitech.com
www.Pro38.com

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The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.